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REPORT ON THE REGIONAL BIOMASS ENERGY PROGRAM'S PERFORMANCE INDICATORS

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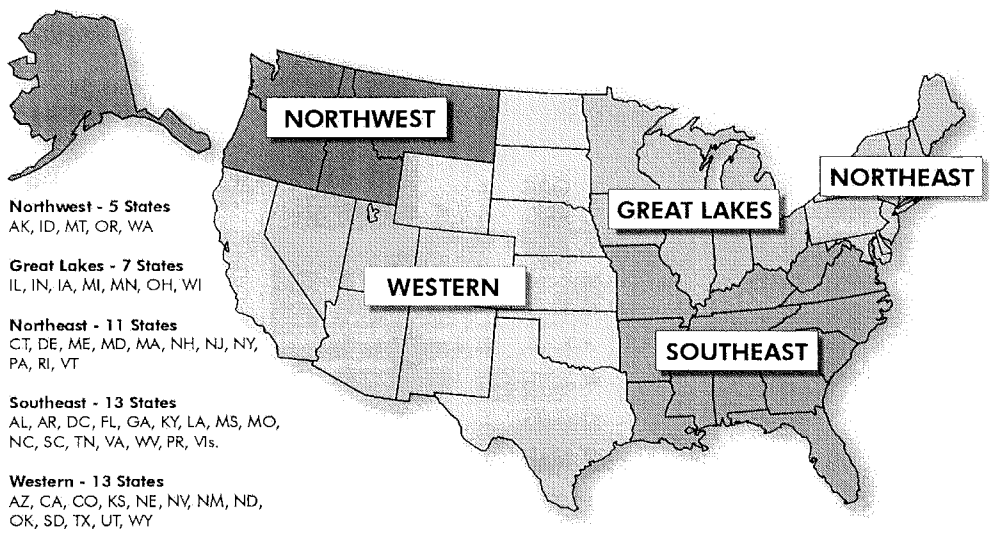
ABSTRACT

The Regional Biomass Energy Program (RBEP) is a federally funded program with the specific goal to increase the production and use of bioenergy resources. The RBEP carries out activities related to technology transfer, infrastructure development, industry support, stakeholder relationships, technology development and demonstration, and matching available bioenergy resources to conversion technologies. Its major focus is the transfer of current, reliable economic and technical information to potential bioenergy users. This report details the development of program's performance indicators and how those measures are aligned with senior performance measures prepared for the U.S. Department of Energy (DOE).

INTRODUCTION

The RBEP is a DOE sponsored effort located in five regions of the United States (U.S.). The first regional program was launched in 1979 for several states in the Northwestern U.S. The Congress formally established the RBEP in 1983, and three more regions—the Great Lakes, the Northeast, and the Southeast—were added at that time. A fifth region including the remaining 13 Western states in the continental U.S., was created in 1987. The RBEP regions and the states served by each of the regions may be found in the Figure 1.

FIGURE 1: RBEP Regional Boundaries



The specific RBEP objective is to increase the production and use of bioenergy resources. As defined by its enabling legislation, the aims of the RBEP are to:

- Improve industry and government planning efforts, particularly assessing current and future biomass resource availability, its use, and applied research needs
- Encourage economic development through public and private investment in bioenergy technologies, and
- Support applied research and demonstrate bioenergy technologies on a cost-shared basis, reduce or eliminate market barriers, understand economic and environmental costs and risks, and accelerate the market acceptance of bioenergy technologies.

The RBEP carries out activities related to technology transfer, infrastructure development, industry support, stakeholder relationships, technology development and demonstration, and matching available bioenergy resources to conversion technologies. With an emphasis on technologies best suited to near-term applications, its major focus is the transfer of current, reliable economic and technical information to potential biomass users. The result is a rich variety of strategies and applications of regional biomass resources to meet regional energy needs.

The purpose of this report is to provide the framework for the RBEP that delineates its goals and objectives for the period from 2000 to 2005. The plan highlights the role RBEP will play in facilitating the continued development of bioenergy technologies and biomass resources at the regional, state, and local level. Each RBEP generally conducts its activities in two interactive arenas:

- Cooperative initiatives with individual state governments match local opportunities with resources and address area-specific problems to find local solutions. Beyond the potential economic development benefits, participating states have the opportunity to strengthen and integrate the work of energy, forestry, air quality, and other relevant offices in promoting bioenergy use. For some regions, the state grant component is a primary method for conducting development and demonstration projects.

- Region-wide technical projects address issues common to the majority of member states. For technical projects, each region seeks active cooperation and cost sharing between the participating states, private industry, trade associations, private farm owners, universities, and other federal agencies. Since its beginning in 1983, the RBEP has been a highly leveraged program. For every federal dollar invested, RBEP partners cost-share at least two dollars.

PROGRAM MANAGEMENT

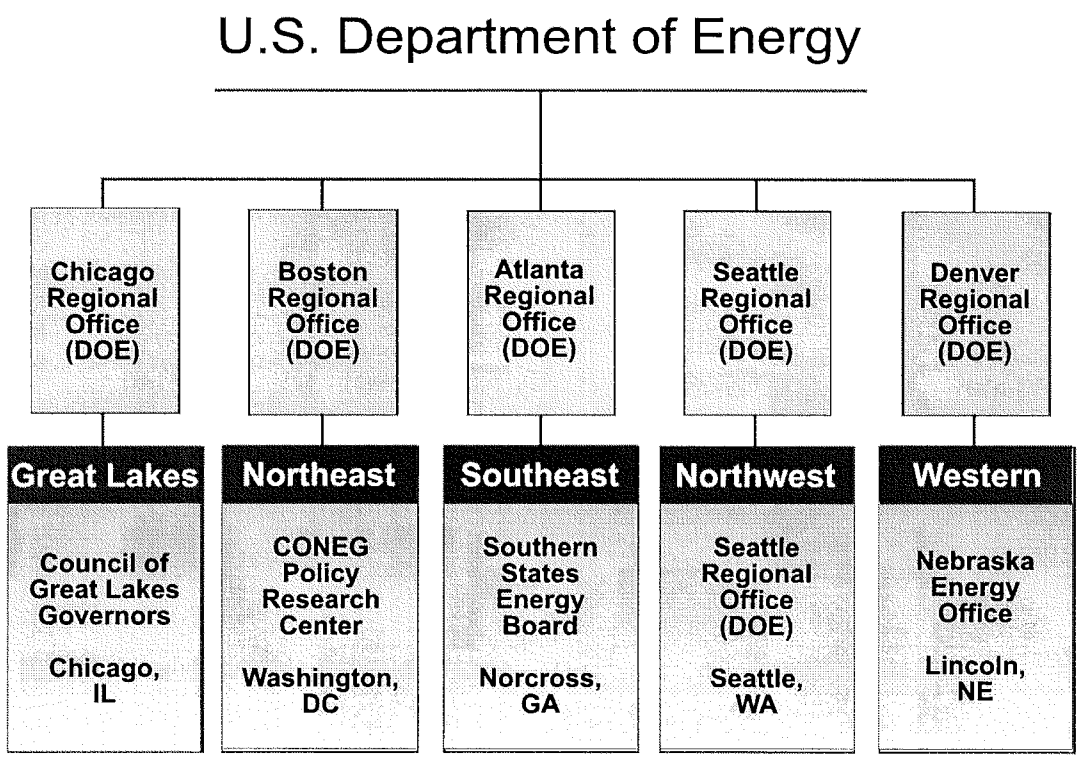
The RBEP is managed and funded by the Office of Fuels Development (OFD) in collaboration with the Office of Biopower and Hydropower Technologies (OBHT). The RBEP works closely with each group in leveraging its resources to facilitate the development of bioenergy technologies and biomass resources.

A key program focus is to complement and help implement the biomass development goals of OFD and OBHT, as well as the other end use sectors in the DOE Office of Energy Efficiency and Renewable Energy (EERE). The program recognizes the role that biomass already plays in meeting energy needs in the industrial and buildings sectors and has worked with government and industrial partners in seeking to augment the use of biomass in these sectors. In working with the various end use sectors, RBEP's efforts are carefully selected to help DOE meet its objectives in reducing U.S. oil import dependence, reducing the emissions of greenhouse gases contributing to global climate change, and creating new employment opportunities.

The RBEP can assist the OFD and OBHT in identifying, developing and implementing special projects that move their technologies from the R&D stage into the marketplace. The RBEPs are in a unique position to facilitate this effort by educating decisions makers at the state and local levels and helping to promote the use of these technologies to the general public.

Each region has a unique program that responds to the specific political and economic needs of the region, reflects the differences in each region's bioenergy resources, and emphasizes the technologies and projects most appropriate for the region. As a result, the five regional programs have developed their own unique management structure to oversee project activities. Every one of the regional programs has a contact person in each of the states within their region. This allows a close coordination between the regional program and state officials, ensuring responsible management and controls over the selection of relevant projects, as well the transfer of reliable data and information.

FIGURE 2: RBEP Organization Roster



The Coalition of Northeastern Governors (CONEG) Policy Research Center manages the Northeast Regional Biomass Program. A steering committee consisting of representatives from each of the region's eleven states works closely with the program manager in coordinating program activities. A similar arrangement exists in the Great Lakes region where governor-appointed officials from seven states collaborate with the program managed by the Council of Great Lakes Governors. In the Southeast region, the Southern States Energy Board manages the program where thirteen states, the District of Columbia, Puerto Rico, and the Virgin Islands provide their input through a steering committee. In the Western region, the Nebraska Energy Office manages the program. Coordination with the thirteen states in this region is by a Policy and a Technical Advisory committee on which each state has a representative. Each of these four regions reports to a DOE Regional Office for guidance and administrative management. The Pacific Northwest & Alaska Regional Bioenergy Program is managed by the DOE Seattle Regional Office and works with the input of five state representatives. A sixth state, Hawaii, will be joining that region in 2001.

ROLES FOR BIOMASS ENERGY

Both the OFD and the OBHT formulate, execute, and coordinate a balanced and customer-focused national program of applied technology research, development, and demonstration of technologies for the production of transportation fuels and power from biomass resources.

Biomass resources include a wide variety of renewable organic materials, including agricultural wastes, food-processing wastes, and wood residues from paper mills, sawmills, wood products manufacturing, urban tree trimming, and trimmings from forest management practices. In the future, energy crops are expected to significantly expand the biomass resource supply.

The nature of the biomass resource makes it useable as a feedstock for producing transportation fuels, electric power, or thermal energy for a wide variety of industrial and buildings applications. The conversion pathways for the same biomass resource are as diverse as the energy applications that they can serve. This versatility of final use makes biomass a promising resource for a renewable future, but it requires programs charged with the development of bioenergy technologies and resources to operate in several, distinct sectors of energy use.

Two major initiatives now being carried out within the OFD Biofuels Program include the bioethanol project and the biodiesel project. The four major project areas in the OBHT include combustion, co-firing, gasification, and small modular biopower systems. Both OFD and the OBHT support the development of energy crops. The RBEP has helped the OFD and the OBHT facilitate technology implementation and to provide the assistance necessary for biofuels and biopower to become more cost-effective. The individual regions have worked both to lower bioenergy production costs and to increase markets for their use.

Legislation such as the Clean Air Act Amendments of 1990, the Energy Policy Act of 1992, and the 1999 Presidential Bioenergy Initiative have placed the RBEP in a particularly effective position to foster universities, business, and government collaboration.

Of particular interest, the President's Bioenergy initiative has the objective of making biomass a viable competitor to fossil fuels as an energy source and chemical feedstock while protecting the environment. "Reaching the President's goal has the potential to generate billions of dollars of new income for farmers and diversify and to strengthen the rural economy, producing 50,000 new, high-technology jobs in small processing plants in rural America and up to 130,000 such jobs in the biofuels, biopower, and bioproducts industries. It would also generate 348 million barrels of oil a year, equal to 158 super tankers and would lower the emissions of greenhouse gases by 100 million tons, equal to the amount emitted by 70 million cars."[1] Continuing advances in forest and farm technology, molecular biology, and other areas make this objective achievable, but capturing it will require an unprecedented effort by universities, business, and government.

The RBEP can be of tremendous assistance in helping to reach the initiative's goal of increasing the use of bioenergy and bio-based products three-fold by the year 2010. Among other roles, the RBEP can act as an intermediate between federal R&D programs and affect policies and programs at the state and local level with groups such as energy and natural resource offices, public utility commissions, and soil and water conservation districts. By having a fully developed two-way communication network, the RBEP can also address the individual interests of key target audiences and provide the necessary feedback to the federal government from these state and local groups.

Thus, the RBEP serves in an important intermediary role between federal agencies, particularly DOE, the Department of Agriculture, the Environmental Protection Agency and the regional and state stakeholders in bioenergy development and commercialization efforts. Due to its success, the RBEP has become a model for public sector technology transfer activities and a focal point for an industry that is as diverse as the resources available and the energy needs that it addresses.

MAJOR CHANGES FROM THE 1997 RBEP STRATEGIC PLAN

Planning is one of the integral steps in fulfilling any organization's mission and the RBEP *Strategic Blueprint* is the fundamental basis for all RBEP planning efforts. The *Strategic Blueprint* sets the RBEP's long-term directions and policies to be carried out by the five regions for the period 2000-2005. It was developed on a consensus-basis between the regional program managers, their DOE Regional Offices, the OFD, and the OBHT.

The major goals in the current plan are essentially the same as those in the 1997 RBEP Strategic Plan. However, the design of the plan has changed significantly. Terminology is now more consistent with the Government Performance and Results Act, P.L. 103-62 (GPRA). Performance indicators are now the common links that tie the RBEP system together, rather than a review of the programmatic activities of any specific region. Measuring performance expands the ideas of "success" from the mere accomplishment of activities to that of delivering desired outcomes and results to customers.

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[1] The White House, Office of the Press Secretary. 13 January 2000. *President Clinton's FY 2001 Budget Accelerates the Development and Use of Bio-Based Technologies.*

"Based on the complexity of our nation's energy markets, the range of energy technology options that could be pursued, and the need to invest federal resources wisely, it is essential that the EERE programs be carried out with superior corporate management and business acumen...Excellence in business management is essential to accomplishing the EERE mission and goals."[2]

As an EERE component, the RBEP will ensure that the program goals and performance indicators are effectively narrated to its local, state, and regional partners, other DOE programs and other federal agencies through an Annual Operating Plan (AOP). Among other items covered in an AOP, each regional program will perform project studies to help determine how their plans will help meet the performance indicators identified in this blueprint. Among other ways this can be accomplished will be through the preparation of Project Descriptions using a standardized template. The AOP can therefore become a key element in the overall planning process by strengthening the ties and information flow to constituencies with interests affected by the RBEP's initiatives.

6.0 CONCLUSION

The importance of positive, supportive attitudes towards bioenergy use is one of the vital "lessons learned" by the RBEPs in developing the industry. Developing positive attitudes toward bioenergy use is based on credible information, public education, and sound technology demonstration. Information regarding the economic and environmental advantages of bioenergy use, resource data and capacity assessments, and the potential applications for new products and technologies made from biomass still needs to be widely shared with a variety of audiences.

Of all of DOE's programs, the RBEP is positioned closest to the ultimate bioenergy customer. Therefore, the RBEP is ideally suited to act as a bridge, helping translate customer needs to OFD and OBHT and bringing innovative solutions from the laboratory to commercial application.

The RBEP serves as a critical link in furthering bioenergy development. With its five regional programs and agency contacts, RBEP offers a well-connected national network of expertise for serving regional and local needs. Over the next five years, RBEP plans to build on its successes in communicating information to key constituency groups, leveraging private and public resources, and facilitating the demonstration of innovative technologies and processes for efficiently utilizing biomass resources for energy applications.

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[2] U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. 2000. *Clean Energy for the 21st Century Strategic Plan.* USDOE, Washington, D.C.